CSP/E

Microcomputer Service in Europe

INPUT®

MICROCOMPUTER SERVICE IN EUROPE

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MICROCOMPUTER SERVICE IN EUROPE

CONTENTS

MICROCOMPUTER SERVICE IN EUROPE

EXHIBITS

1 INTRODUCTION

A. PURPOSE

- The continuing boom in sales of business microcomputers in Europe (more than 60,000 were shipped between 1981 and 1983) provides both a challenge and an opportunity for field service organisations.

- This brief details user service expectations, and compares them to vendors' current performance and analyses user contract arrangements for PC servicing.

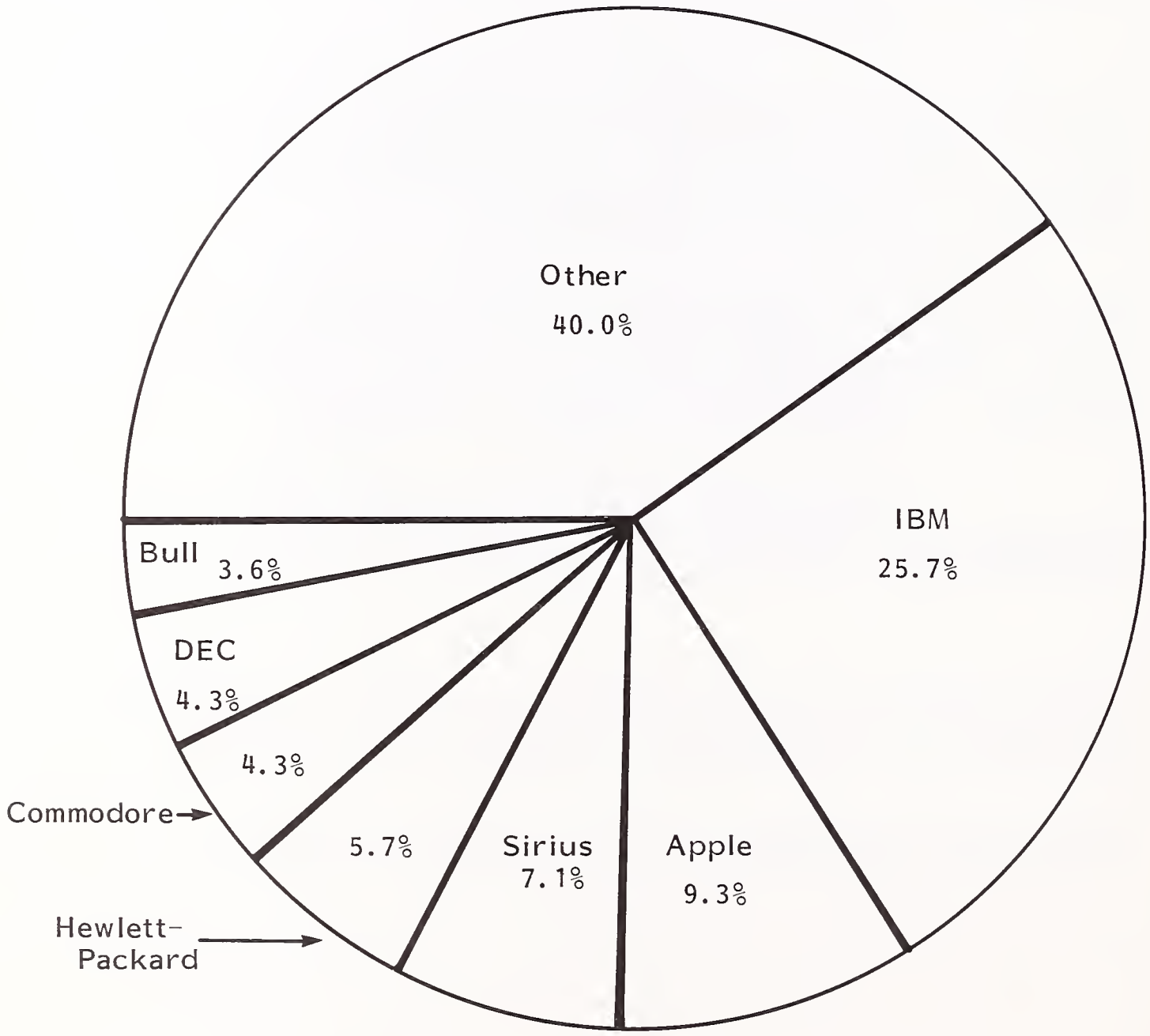
B. METHODOLOGY

- All data has been collected by INPUT Ltd. in Europe as a follow-up to the 1984 Annual Report questionnaire covering both users and vendors.

- The Exhibit 1-1 chart shows the sample analysis by manufacturer.

EXHIBIT I-1

ANALYSIS OF SAMPLE BY MANUFACTURER



II EXECUTIVE SUMMARY

A. MARKET SIZE

- The European market for maintenance of PCs in Europe is expected to grow from 21.8 million pounds in 1984, to 56.5 million pounds in 1987. Almost 70% of the market will be accounted for by contracted service, as shown in Exhibit II-1.

- Only 25% of PCs sold at the moment have a maintenance contract associated with it. In view of the high level of machine reliability, the provision of maintenance contracts is a more profitable approach to service than responding on a time-and-materials (T&M) basis.

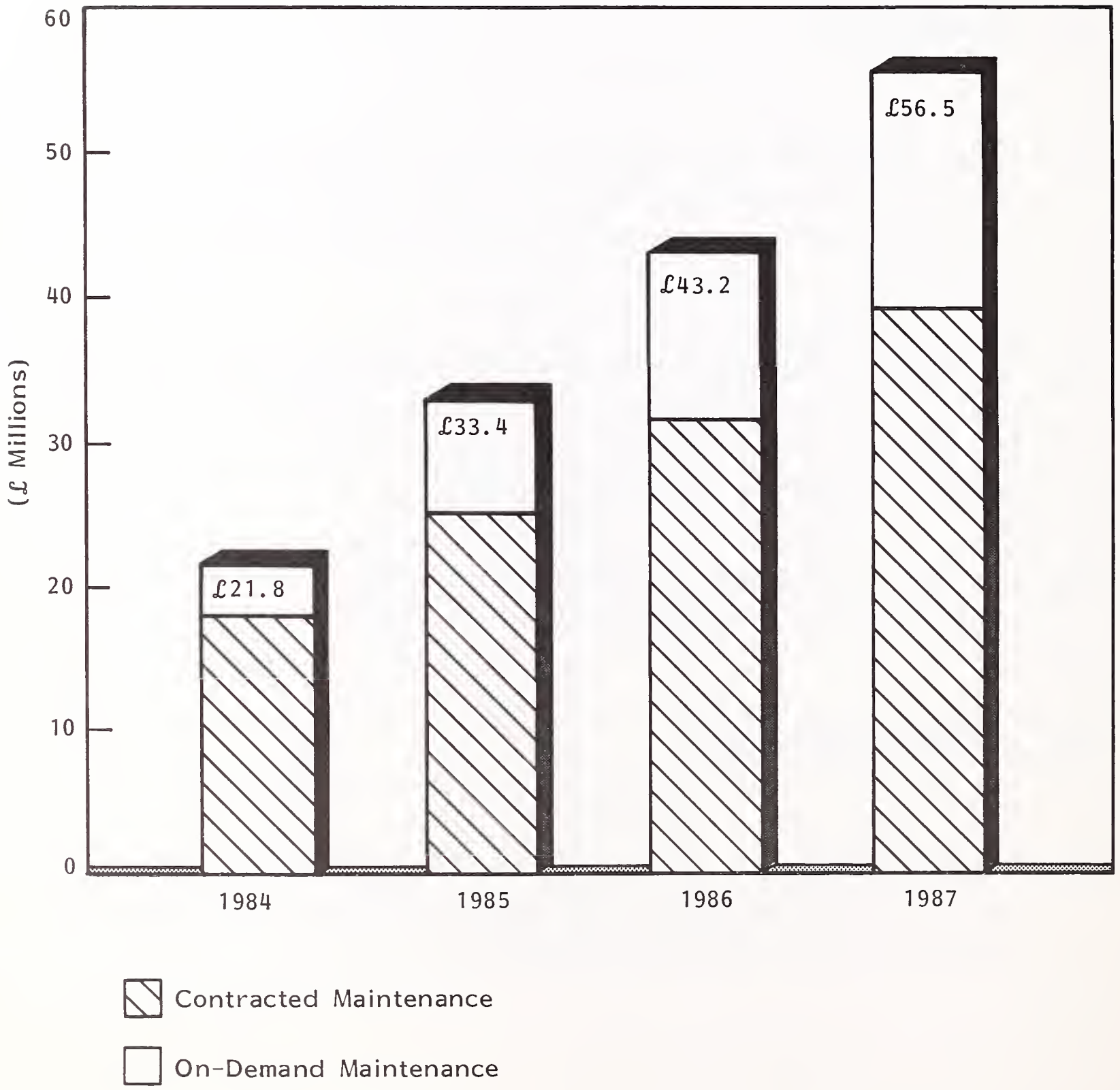
- A number of companies compromise on the approach by charging a "registration" fee and then providing T&M service at a lower unit rate.

B. SERVICE AGREEMENTS

- Vendors should consider ways to maximise the sale of service contracts for PCs. One obvious hurdle is the provision of a warranty--a user is unlikely to take out a service contract when a warranty is in force.

EXHIBIT II-1

THE EUROPEAN MARKET FOR MICROCOMPUTER SERVICE



- The market structure is difficult because the manufacturer and possibly the TPM vendor are one-stage removed from the user. The dealer is probably closest to the customer, and so is best placed to sell service.

- Since contracted service is likely to be the most profitable service option, vendors should encourage dealers to sell contracts.

  - Vendors might offer commissions on contracts.

  - They might sell the benefits of user satisfaction to the dealer.

  - Good service back-up should be a key selling point for the dealer.

  - Vendors are encouraged to consider the equipment exchange route so that the dealer can keep his contract with the user while the vendor is able to optimise service productivity.

  - Vendors might sell the concept that service is a good way for the dealer to maintain contact with the entire customer base.

- The end user should also be encouraged to think in terms of contracted service. This can be achieved possibly by guaranteeing response times and a maximum level of system availability.

C. IMPORTANCE OF SERVICE

- The availability of service back-up is an important criterion to users when selecting equipment. As users become more dependent upon their PCs, service will become more vital, particularly if software support is taken into consideration.

D. RELIABILITY AND AVAILABILITY

- Users are pleased with the reliability of their PCs. This is probably one of the biggest stumbling blocks to selling service. Good experiences during the warranty period are unlikely to generate a major desire to take out a service contract.

- Users are, however, less pleased with their software support; this could prove to be a useful aid for the vendor putting together a service package for the user. To be attractive to the user, it would probably have to include guarantees about response and repair time for both hardware and software--including applications software problems.

- It is obviously extremely important that when dealers are involved in the distribution chain, clear lines of contact for the user are specified, and also clear areas of service responsibility are agreed.

- Exhibit II-2 shows that although there is reasonable satisfaction with maintenance received, there is still considerable scope for improvement.

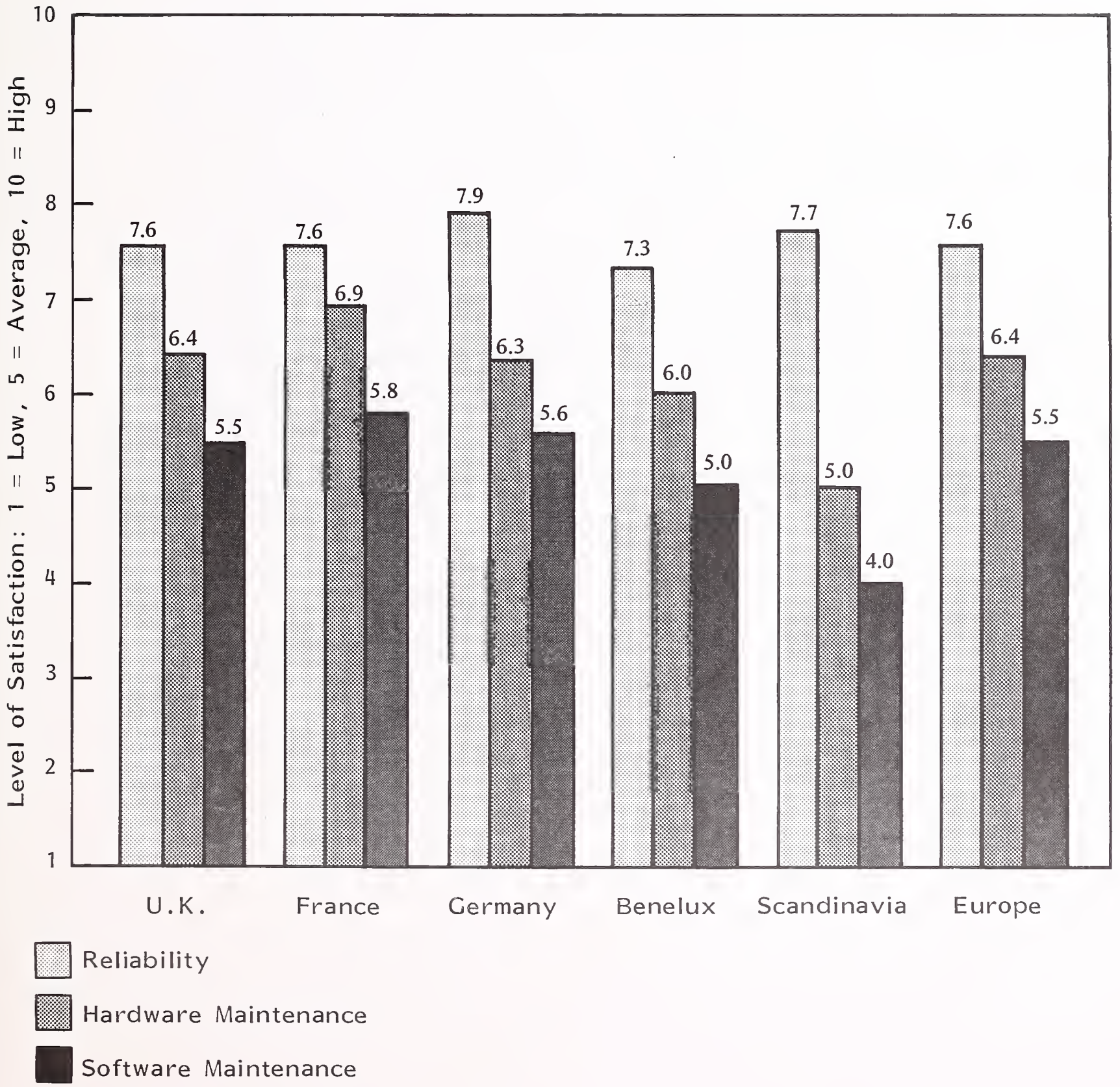
E. RESPONSE AND REPAIR TIMES

- The important factor to the user is the combined response and repair time--in other words the time it takes to get the system back on the air.

- Although vendors are not meeting the users' desired performance, they are at least performing within the users' "threshold of pain"--i.e., the longest tolerable delay. In many cases, however, the performance is only just within that threshold, and vendors should not be complacent about a service standard that is only just acceptable.

EXHIBIT II-2

USER SATISFACTION WITH RELIABILITY AND MAINTENANCE



- Response times alone are long and should be investigated. Again, a major problem is the role of the dealer who may have sold the equipment but sometimes has little real interest in providing maintenance support. Manufacturers and TPM companies have an opportunity to become the service contact point for the end user, eliminating the delays caused by an intermediary.

- Exhibit II-3 compares current vendors' response and repair times with user requirements.

F. SOFTWARE SUPPORT

- This is at once the biggest problem area and the greatest market opportunity. Users are only marginally satisfied with the software support they are receiving and should react favorably to a maintenance service that provides full software support--of both systems and applications software.

- A previous INPUT report, Field Service Brief: Customer Service Software Support, indicated that users would be prepared to pay a premium for software cover.

- There are obviously major implications for the calibre of support engineer required if such a comprehensive service is to be provided.

EXHIBIT II-3

CURRENT VENDORS' RESPONSE AND
REPAIR PERFORMANCE COMPARED TO USER NEEDS

	VENDOR CURRENT PERFORMANCE*	USER THRESHOLD OF PAIN*	USER DESIRED RESPONSE*
U.K.	22.0	26.6	16.7
France	28.8	22.2	14.4
Germany	8.4	15.1	6.3
Italy	18.8	20.2	18.3
Benelux	27.5	29.2	23.5
Scandinavia	18.8	9.9	8.4
Europe	21.8	23.6	15.0

* Time in Hours

III USER EXPECTATIONS

A. IMPORTANCE OF SERVICE

- The appeal of the personal computer to a wide range of users makes generalisations about service importance both difficult and dangerous. The needs of a small business that may depend on its PC for producing invoices or payroll will be different from those of a single executive in a large company using the PC to run decision support software.

- Service is, in general, an important criterion in the decision to purchase a particular machine. On a scale of one to ten (in which 1 = unimportant, 10 = very important), overall service has a rating of 7.7. In the case of PCs, service is slightly less important, rating only 7.0, as shown in Exhibit III-1. Only in the Benelux countries is service for PCs considered to be more important than for all systems.

- Although PC users consider service to be important, few of these users take out formal service agreements, relying instead on calling in engineers when necessary. The percentage of users having agreements varies from a low of 17% in Italy to a high of 31% in Benelux, as shown in Exhibit III-2. Overall, one user in four is covered for service. These figures may be low, though, since some users have PC service bundled in with their overall maintenance contract.

EXHIBIT III-1

IMPORTANCE OF SERVICE AS PURCHASING CRITERION

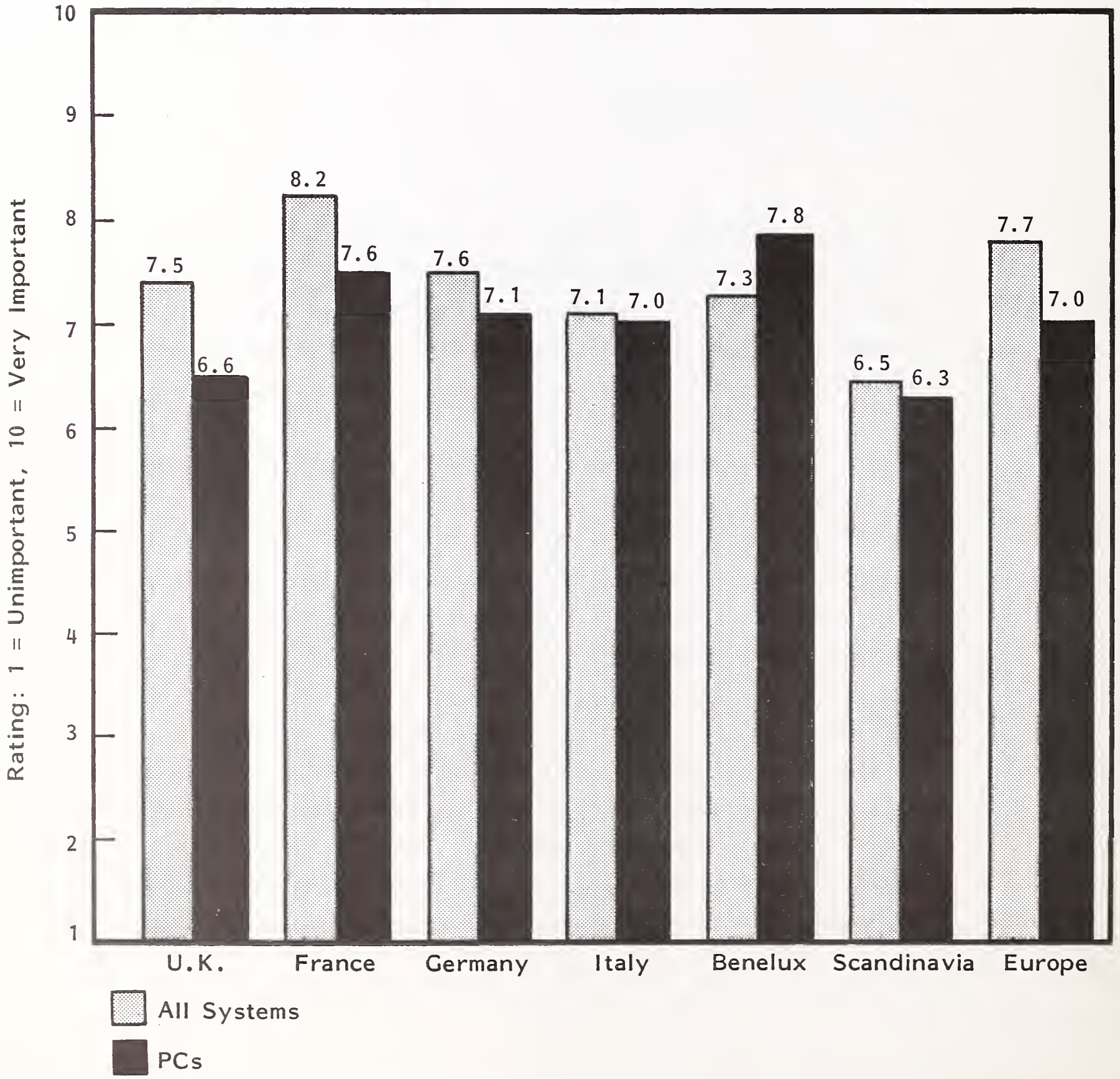
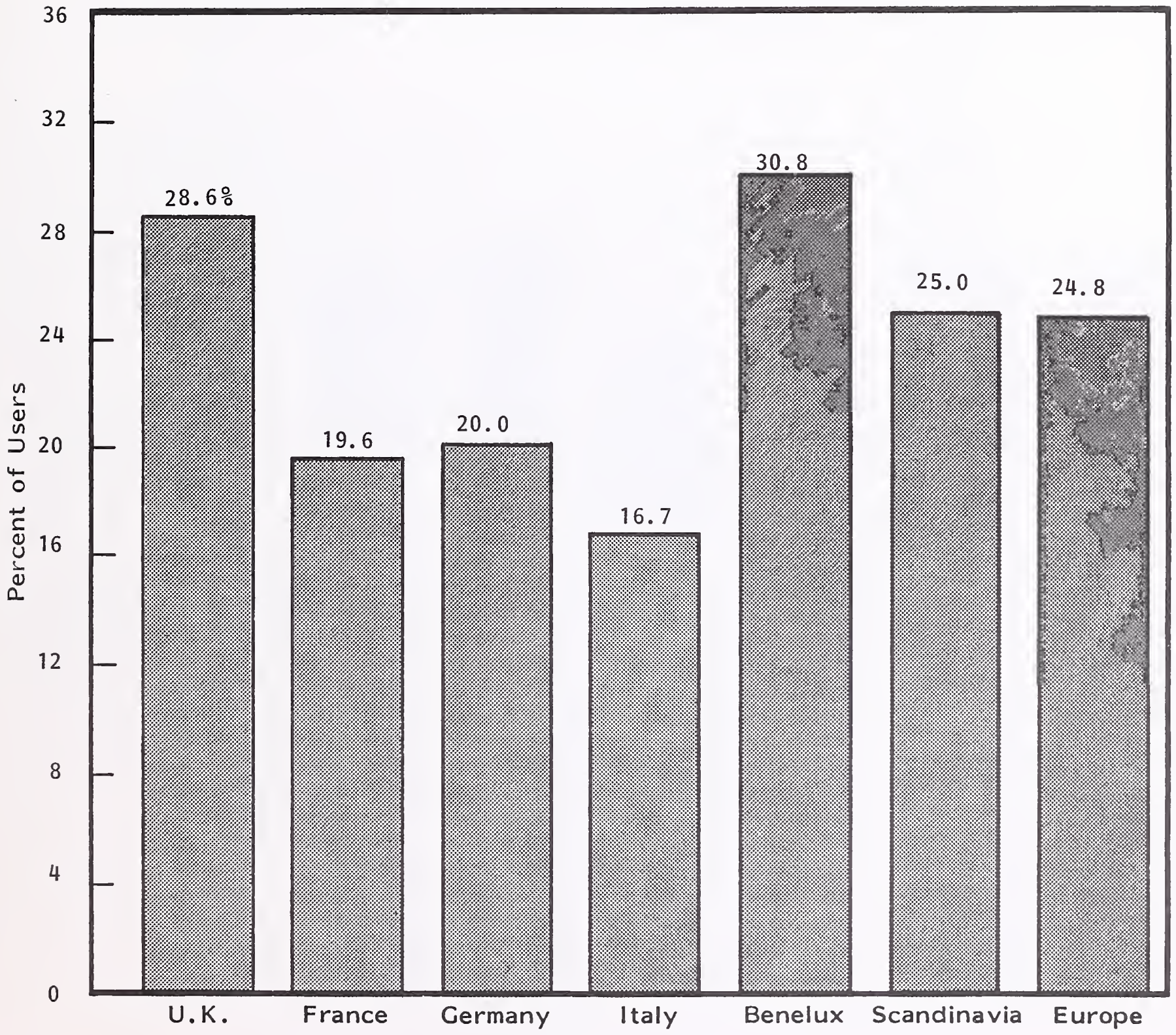


EXHIBIT III-2

PC USERS WITH SERVICE AGREEMENTS



B. EQUIPMENT RELIABILITY

- One reason for the relatively low acceptance of service contracts might be user perceptions of hardware reliability. This is particularly so when the customer is an inexperienced layperson rather than a DP manager with experience of computer down-time. The layperson is more inclined than the DP manager to expect high levels of reliability associated with modern electronics.

- Overall user satisfaction with reliability is fairly high (although not exceptional) rating 7.6 out of ten. However, overall system availability, at 88%, is below the users' desired 90%, although it is better than the 86% minimum acceptable. Clearly there is scope for improvement in both reliability and availability. Exhibits III-3 and III-4 compare PC reliability and availability for each country.

- The satisfactory average level of reliability disguises the fact that a significant proportion of users--14%--considers reliability to be barely adequate, or worse, as Exhibit III-5 illustrates.

- Predictably, there is little variance in reliability on a geographic basis, but it might be expected to vary according to manufacturer. Exhibit III-6 demonstrates that there is insignificant variation among the major manufacturers. Hewlett-Packard records the highest reliability level, 8.6, and Commodore records the lowest, at 7.7. A number of users did not comment on reliability, since their machines were too new to allow sensible evaluation.

EXHIBIT III-3

USER SATISFACTION WITH PC RELIABILITY

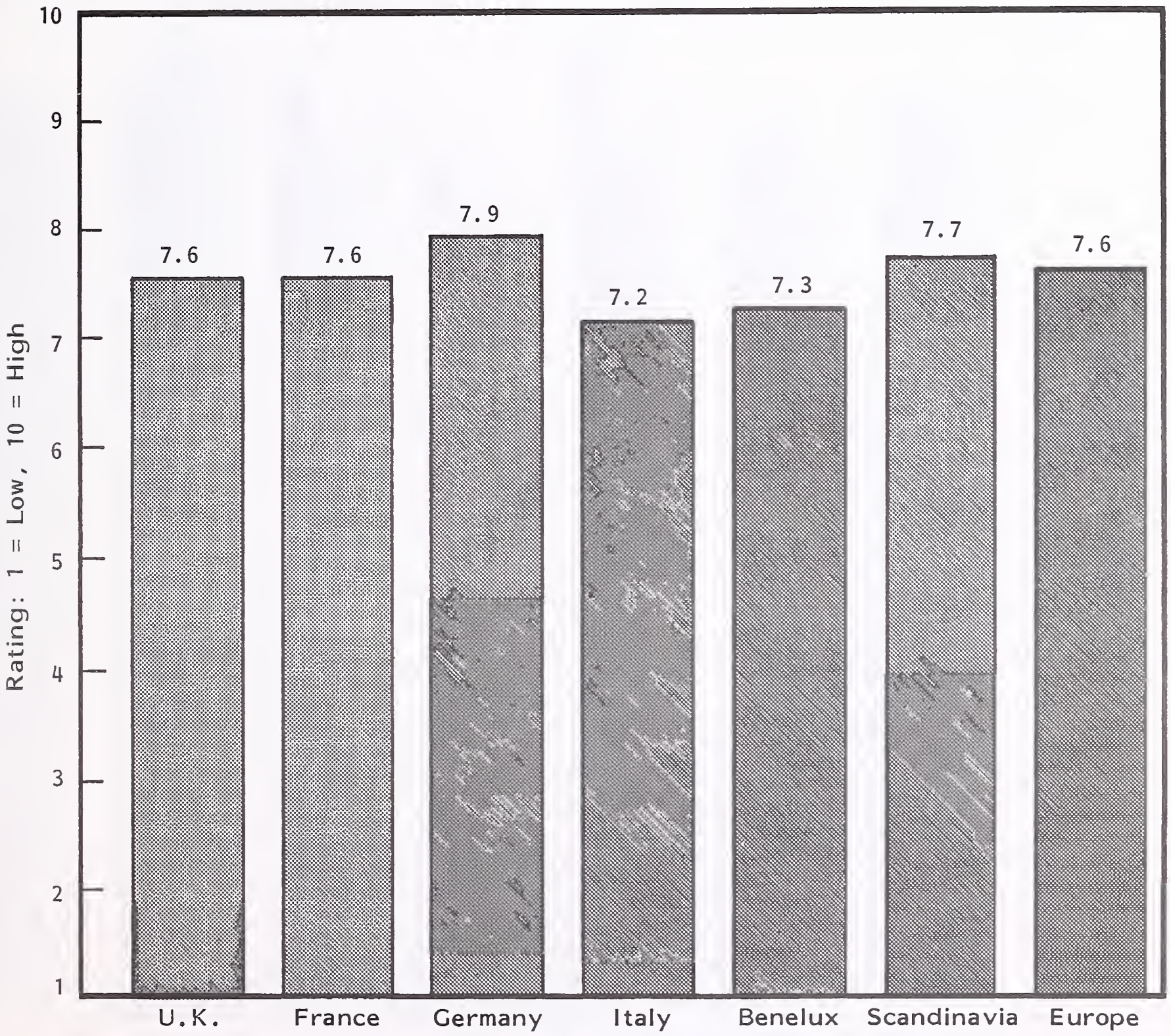


EXHIBIT III-4

PC SYSTEM AVAILABILITY

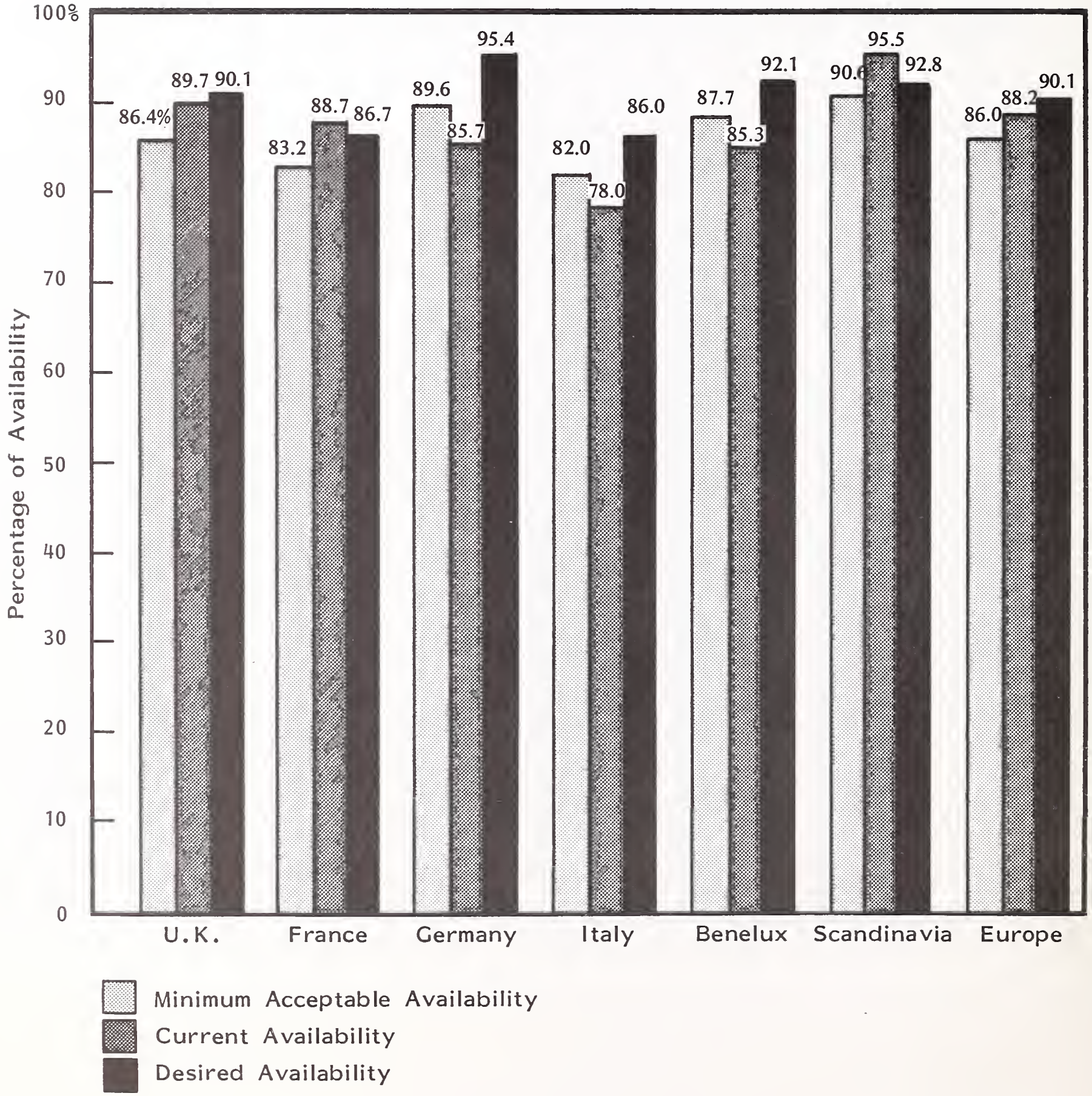
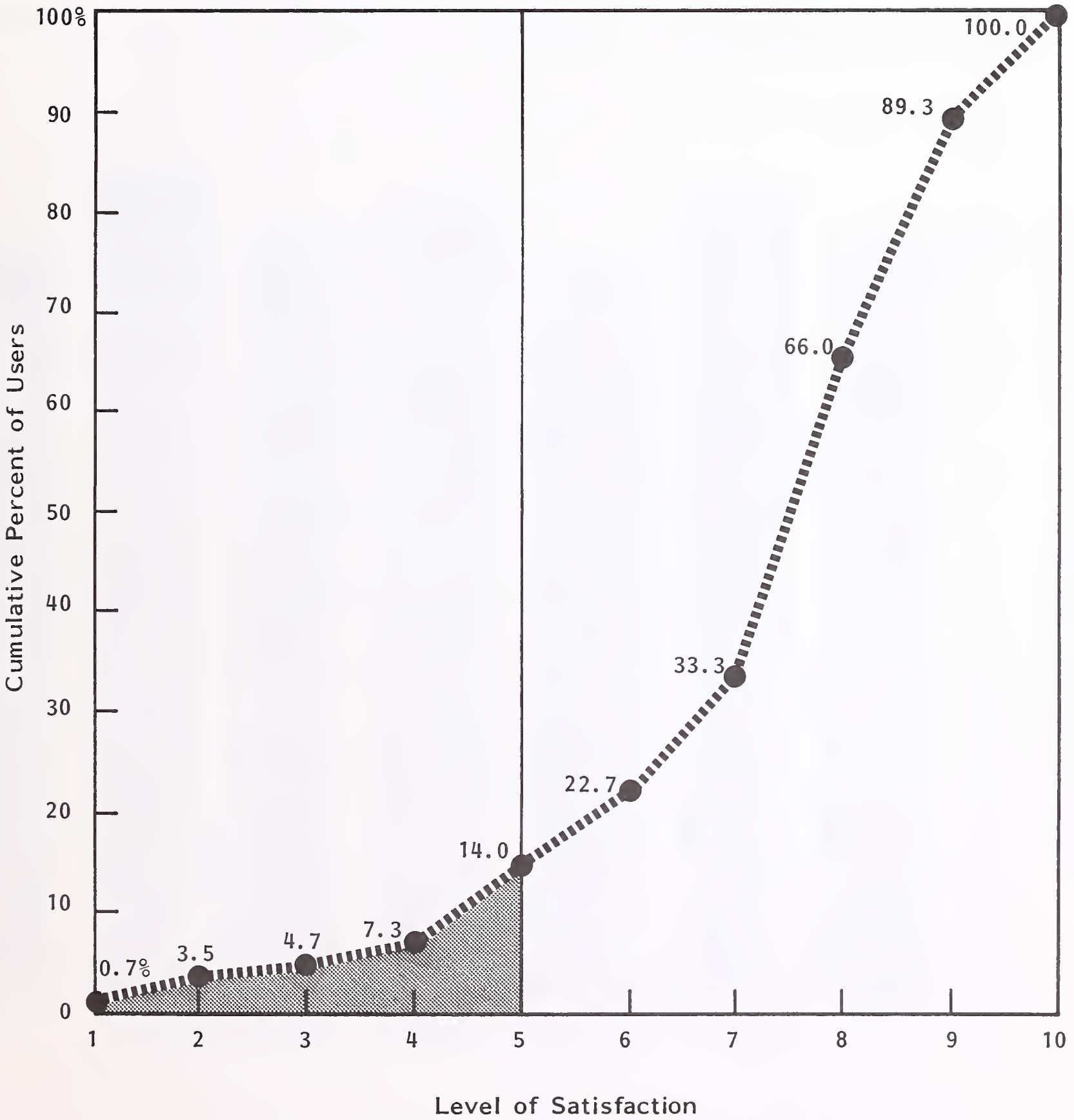


EXHIBIT III-5

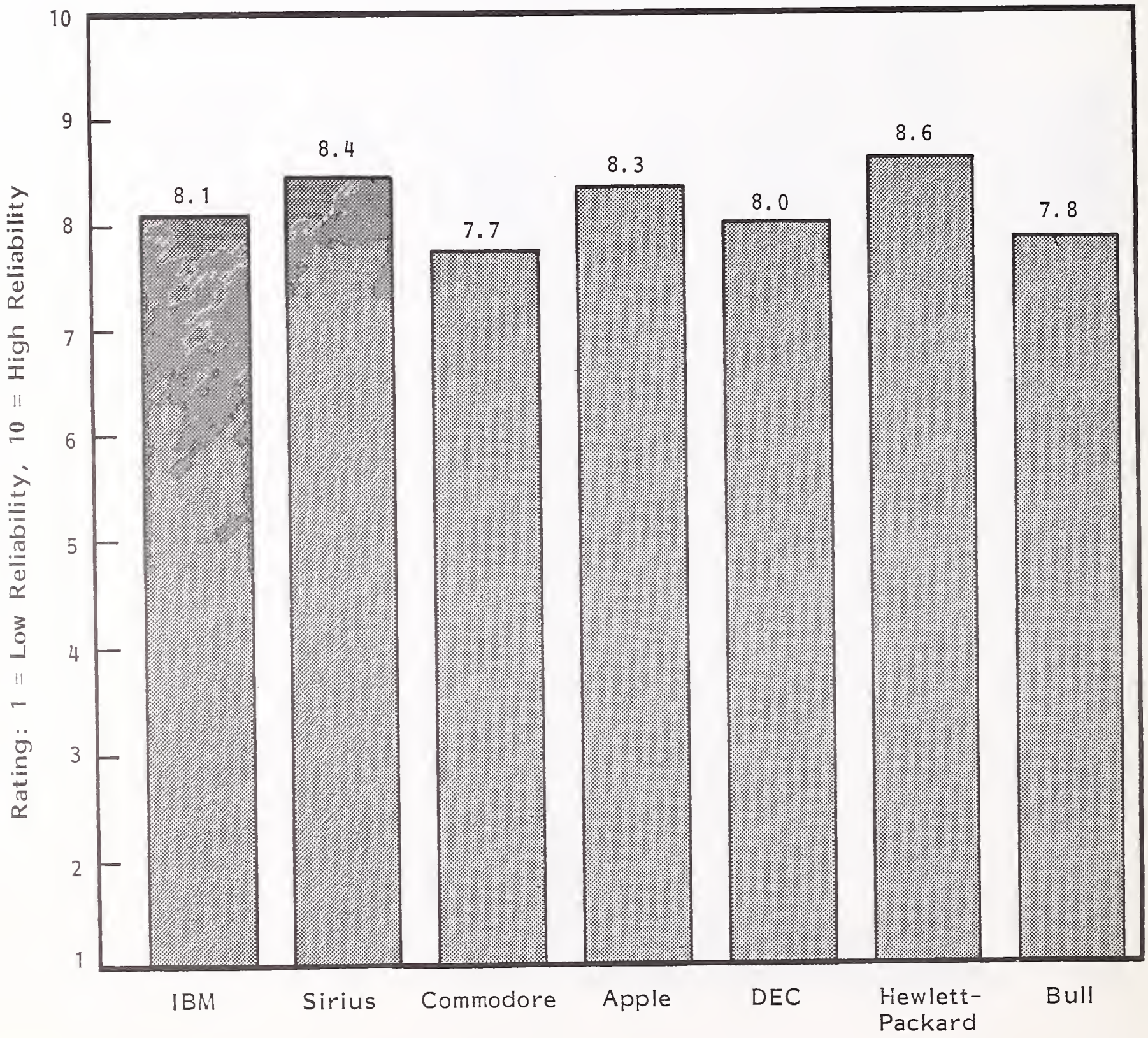
USER SATISFACTION WITH RELIABILITY



* Rating: 1 = Low, 5 = Adequate, 10 = High

EXHIBIT III-6

PC RELIABILITY - MANUFACTURER PERFORMANCE



C. RESPONSE AND REPAIR TIMES

- Users are prepared to accept longer response times for PC maintenance than they are for larger systems. As Exhibit III-7 shows, a response of about nine hours (about two working days) is acceptable. In France and Germany, however, users are more demanding, expecting a response within six hours.

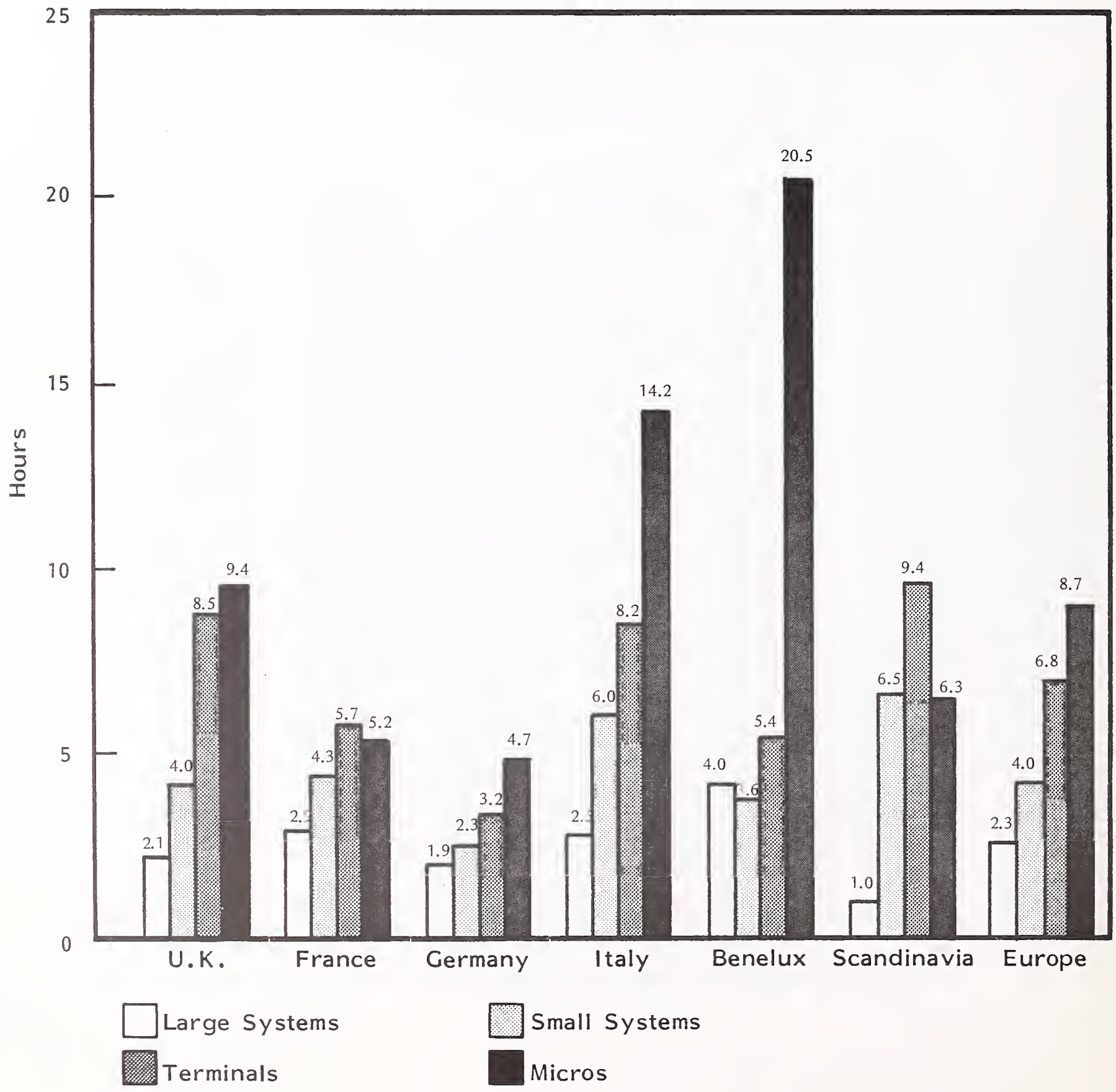
- The response time is only half the story: the repair time is also vital. The table below shows that these times can be surprisingly long. All figures reflect time in hours.

	Current Repair Time	User Requirement	"Threshold of Pain" (T.O.P.)	Performance (Better)/Worse Than T.O.P.
U.K.	8.7	7.3	12.1	(3.4)
France	15.0	9.2	15.2	(0.2)
Germany	2.3	1.6	8.6	(6.3)
Italy	4.0	4.0	6.0	(2.0)
Benelux	4.3	3.0	6.6	(2.3)
Scandinavia	13.2	2.1	3.8	9.4
European Average	9.0	6.3	11.4	(2.4)

- Predictably, users quote a desired repair time that is shorter than the suppliers' current performance. A more reasonable measure of user need is the "threshold of pain"--the maximum time a user is prepared to wait for a repair

EXHIBIT III-7

REQUIRED RESPONSE TIMES



to be completed. Suppliers in all regions, with the exception of Scandinavia, are bettering that requirement, as shown in Exhibit III-8.

- Combining the two down-time elements (response and repair time) gives a truer picture of vendors' success in meeting user requirements. Only in France and Scandinavia are vendors failing to meet the "target". In the other regions, however (with the exception of Germany), the margin is close, leaving scope for improvement.

- In a number of key markets, the user requirement is broadly similar. Exhibit III-9 shows the distribution of user response plus repair time needs. Although the majority of users are aiming for quick response--less than eight hours--a significant percent of users--17%--will accept delays of over 48 hours. See also Exhibit III-10, which shows that 50% of users require a response time of less than 12 hours.

- A key factor in some of the lengthy repair times being reported is probably the availability of spare parts. Users seem to be reasonably pleased with the availability of spare parts, but they are less pleased with the engineer's ability to cure faults at the first visit, as shown in Exhibit III-11.

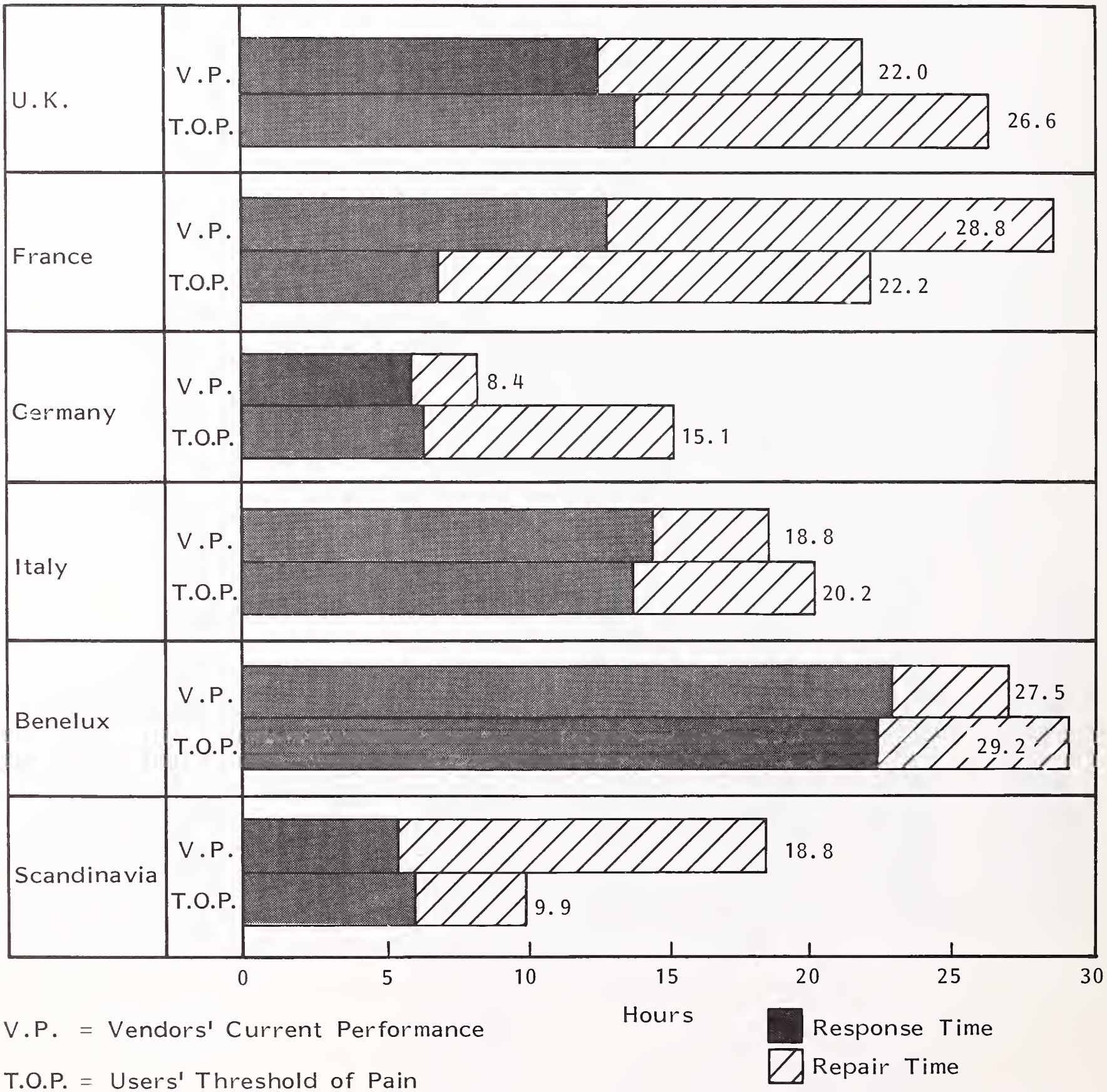
- Although users appear satisfied with the spare parts situation, the cumulative frequency distribution on Exhibit III-12 reveals that nearly one user in four finds the situation no more than adequate.

  - This problem has been recognised by vendors that rate their own performance more critically than do users--6.4 against the user rating of 6.9. As far as repeat calls are concerned, however, vendors have assigned themselves a higher rating--7.2--than users have; the user rating is only 6.4.

  - A comparison of user and vendor views about response and repair times, shown in the table below, is interesting. Figures show time in hours.

EXHIBIT III-8

TOTAL CURRENT RESPONSE AND REPAIR TIMES
COMPARED TO USER REQUIREMENT



V.P. = Vendors' Current Performance

T.O.P. = Users' Threshold of Pain

EXHIBIT III-9

DISTRIBUTION OF USER RESPONSE PLUS REPAIR TIME REQUIREMENTS

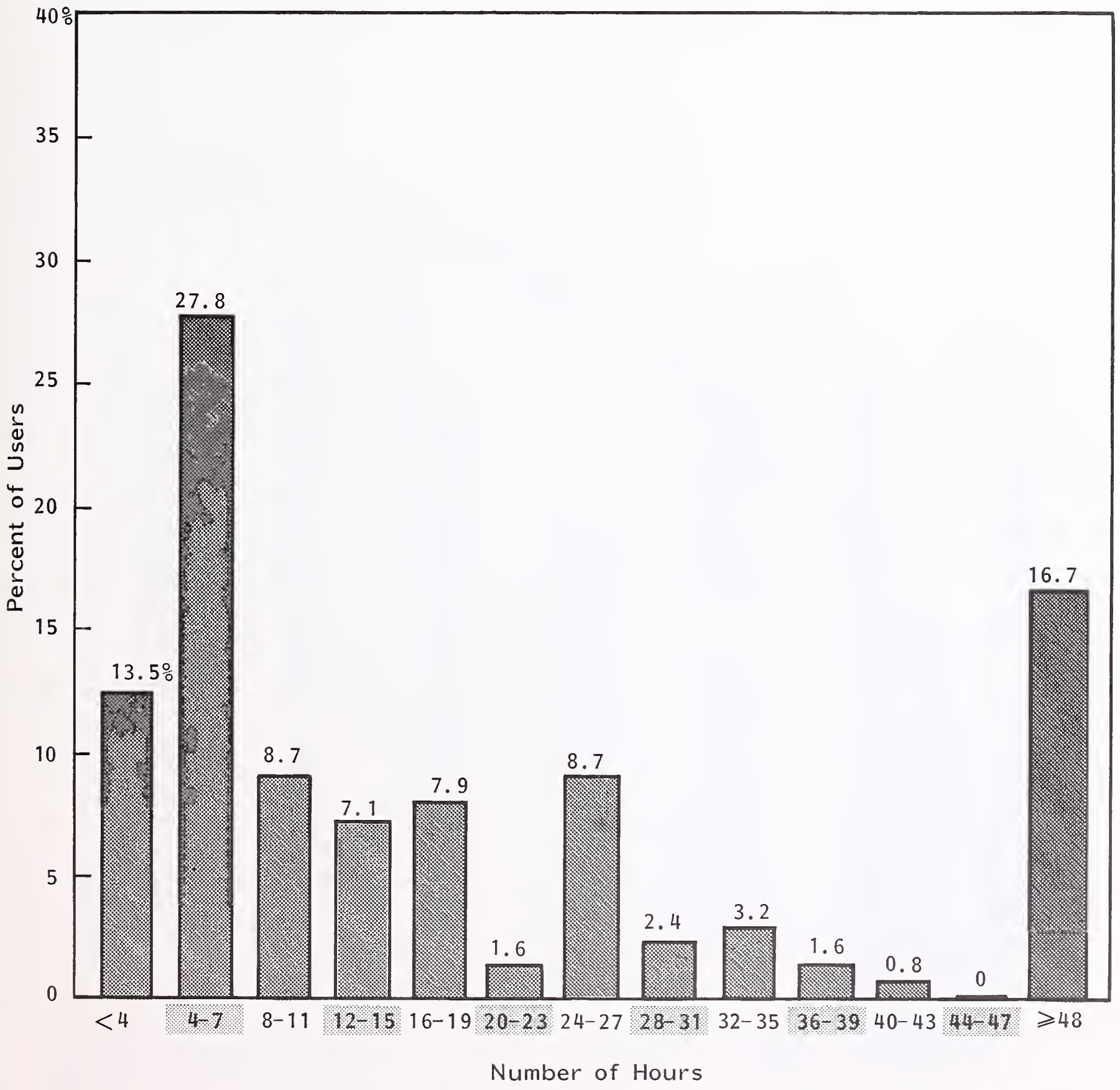


EXHIBIT III-10

CUMULATIVE DISTRIBUTION OF USER REQUIREMENTS

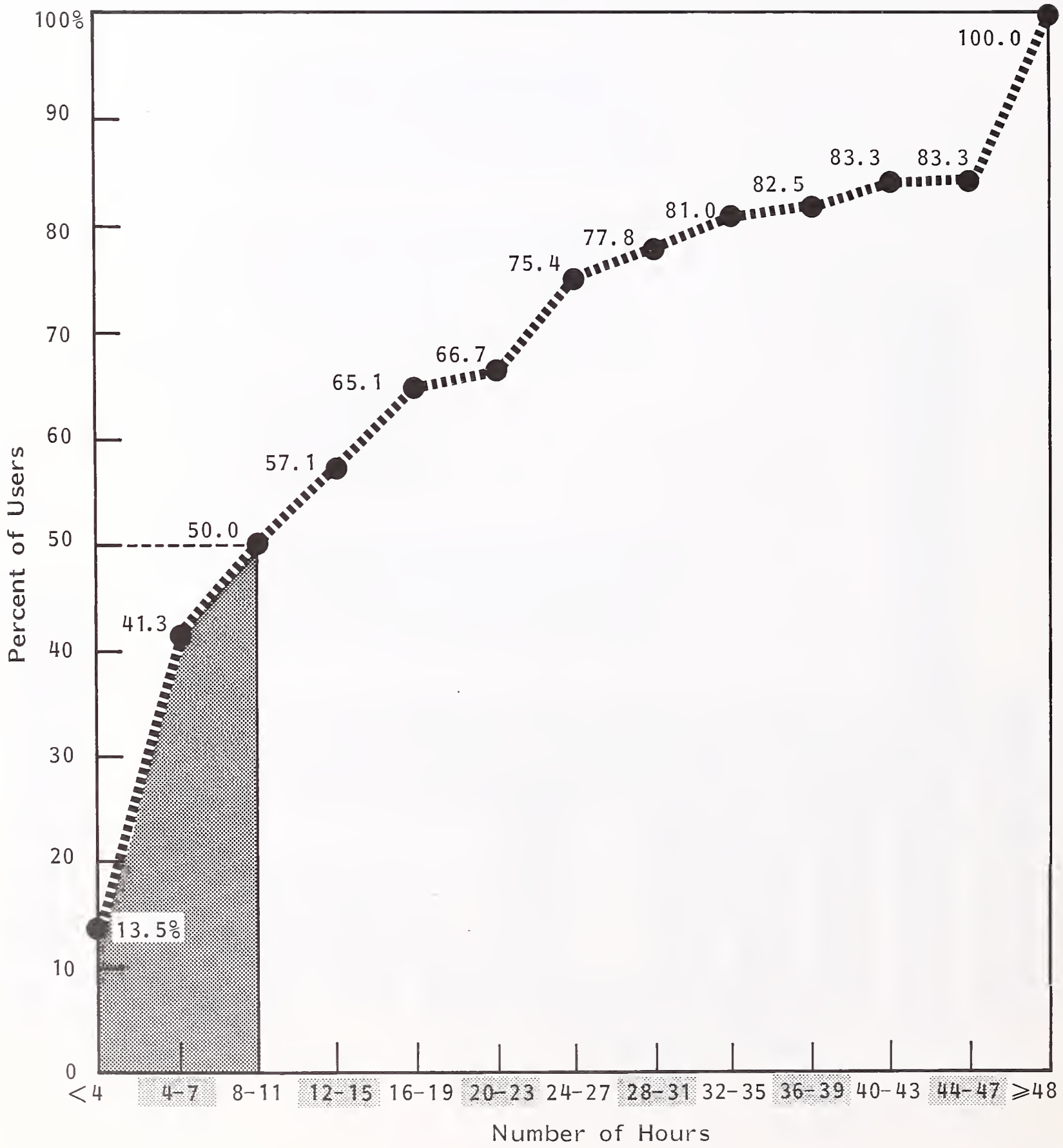


EXHIBIT III-11

USER SATISFACTION WITH SPARES; FIRST VISIT REPAIR SUCCESSES

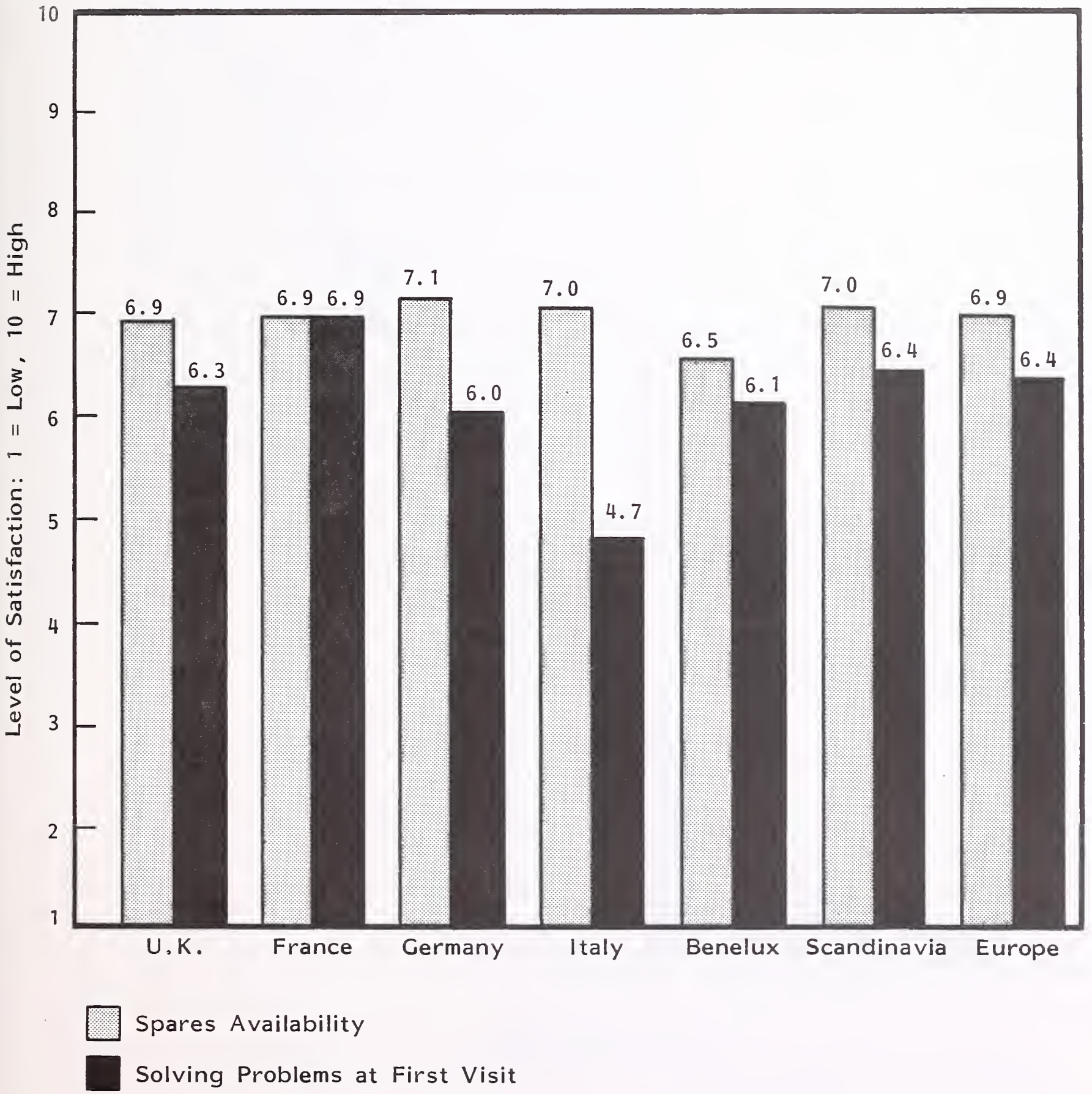
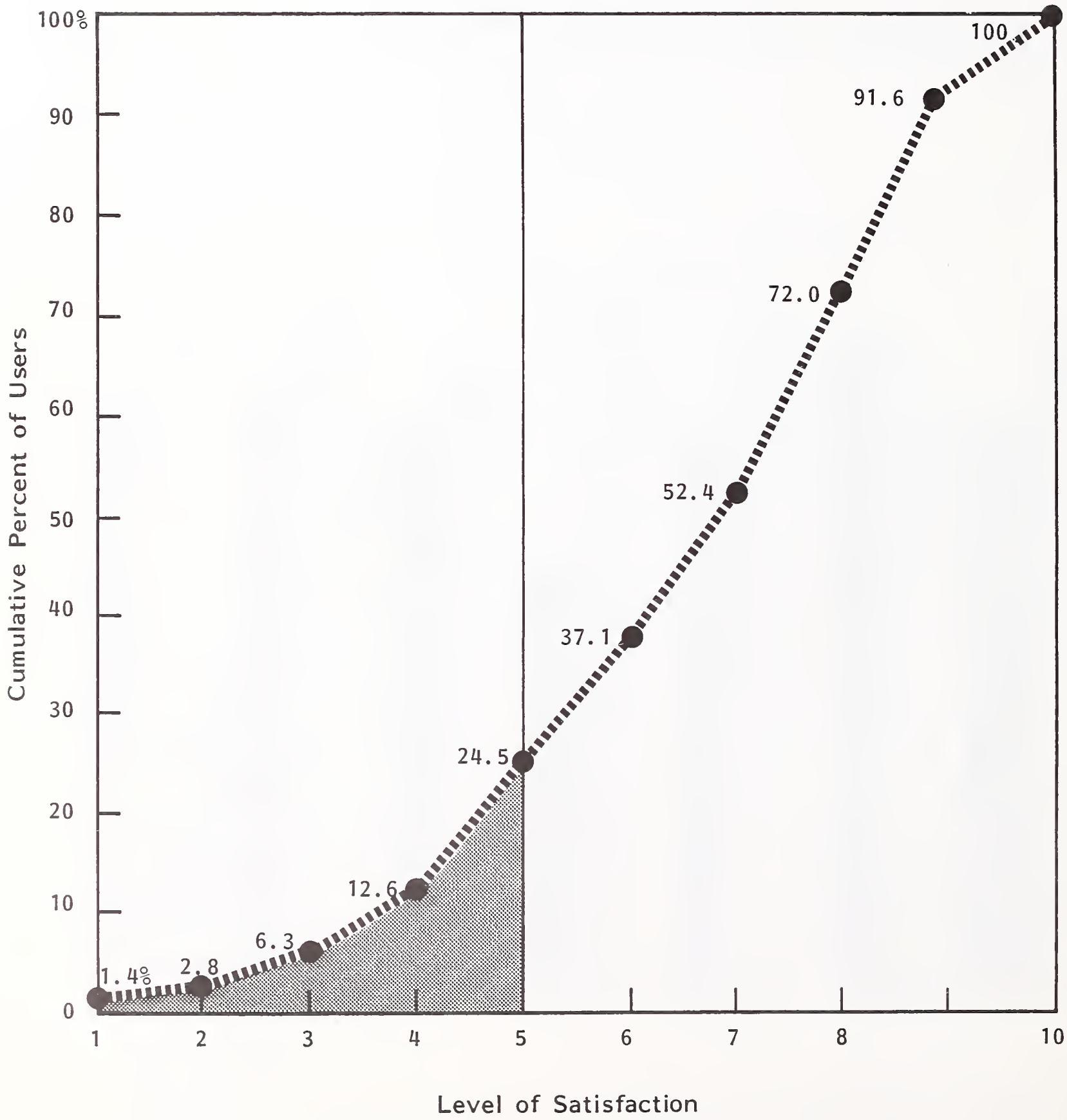


EXHIBIT III-12

USER SATISFACTION WITH SPARE PARTS AVAILABILITY



* Rating: 1 = Low, 5 = Adequate, 10 = High

	Users Say	Vendors Think
Desired Response Time	8.7	4.4
Desired Repair Time	6.3	1.1
Total Time	15.0	5.5
Maximum Permissible Response Time	12.2	24.3
Maximum Permissible Repair Time	11.4	3.4
Total Time	23.6	27.7

- In terms of the users' more stringent requirement, the desired response plus repair time, vendors think that users demand a much tighter level of service than is in fact the case. However, when it comes to the worst-case situation, vendors believe they have longer to solve the problem than they really have.

- It is interesting also to compare the vendors' perception of the response times they provide with the users' "experience". (Times are shown in hours.)

	User Views	Vendor Views
Current Response Time	12.8	5.1
Current Repair Time	9.0	1.7
Total Time	21.8	6.8

- Comparing the two figures, one sees that the vendors claim an average response and repair time of less than seven hours while the users are experiencing almost 22 hours: it is difficult to believe that these times relate to the same topic under discussion.

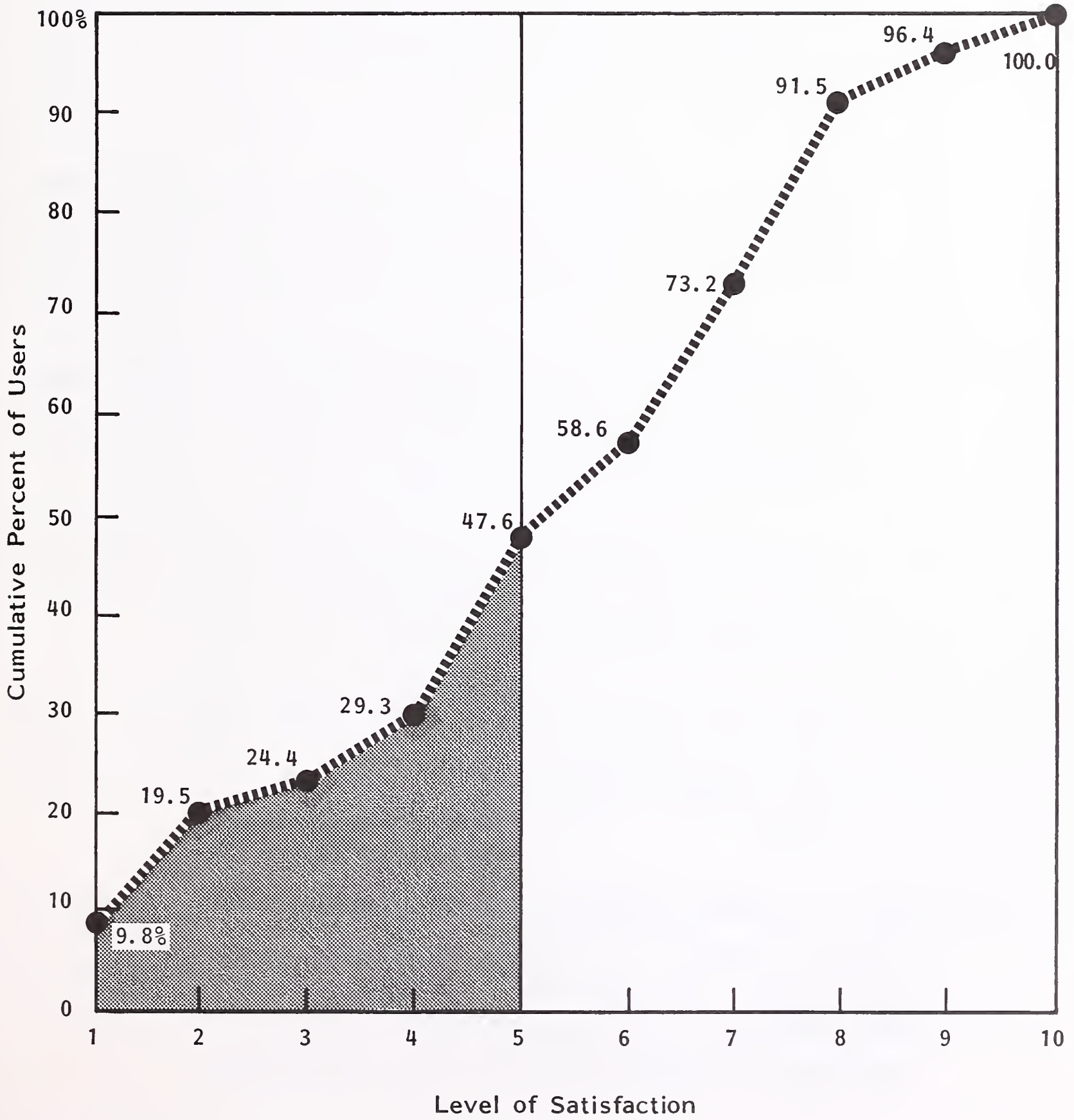
D. SOFTWARE MAINTENANCE AND SUPPORT

- Software maintenance and support is one of the key issues facing PC vendors today. The table below shows that users are generally only barely satisfied with the quality of software maintenance they receive. This picture, confirmed by Exhibit III-13, shows that 48% of users are less than happy with the service provided. Figures in the table below relate to the rating scale (1 = very dissatisfied, 10 = very satisfied).

	User Satisfaction with Maintenance	
	Software	Hardware
U.K.	5.5	6.4
France	5.8	6.9
Germany	5.6	6.3
Italy	N/A	N/A
Benelux	5.0	6.0
Scandinavia	4.0	5.0
Europe	5.5	6.5

EXHIBIT III-13

USER SATISFACTION WITH SOFTWARE MAINTENANCE



* Rating: 1 = Low, 5 = Adequate, 10 = High

- Software maintenance and support for PCs pose a number of difficult problems for the manufacturer.

  - As with mainframe software, it is important to distinguish between systems and applications software.

  - The market structure--which involves hardware manufacturers, distributors and software producers--blurs the lines of maintenance responsibility, particularly between the distributor and the hardware or software producer.

  - Maintaining and supporting all the different applications packages being written is difficult, given the volume. Yet, this is increasingly what users are seeking--and users are willing to pay for this service.

  - The spread of the PC away from the DP environment has produced a different customer profile. The service engineer is more likely to have to deal with a non-technical person who may not be able to distinguish between software and hardware faults.

  - The growth of software products for vertically integrated markets can demand an industry knowledge that many maintenance engineers would find difficult to acquire.

  - Clearly the question of software maintenance depends to a great extent on the original price of the package. It is unlikely that a user would seriously demand, or pay for, a high level of support for a $50 package.

- Despite the problems involved in handling software maintenance, particularly applications packages, it could prove to be a major market opportunity for service vendors. With high levels of hardware reliability, software maintenance and support may be the carrot that will persuade users to take out service contracts, rather than rely on call-outs when necessary.

E. SERVICE PERFORMANCE: USER VIEWS COMPARED TO VENDOR VIEWS

- Users were asked to rate the quality of specific service elements provided by vendors. The table below shows a comparison of user and vendor views in Europe. (All data are on a scale of 1 = low, 5 = average, and 10 = high.)

Service Element	User Rating	Vendor Self-Rating
Overall service quality	6.8	7.3
Quality of service engineers	7.0	7.4
Quality of service management	6.4	7.7
Availability of spare parts	6.9	6.4
Software support	5.9	4.2
Value for money	6.2	6.7
Resolving invoicing disputes	6.4	8.7
Minimising repeat calls	6.4	7.2

- It is interesting to see that the vendors believe they are doing a better job than the user results portray.

- All the ratings are above average, but they do leave scope for improvement.

- The quality of service engineers is the brightest spot, and software maintenance is, predictably, the black spot.

- Exhibit III-14 compares the user rating of vendor performance in the different markets. With few exceptions, the picture is mediocre. Users are adequately satisfied, but there is room to provide a better level of service.

F. PC SERVICE MARKET SIZE

- The rapid growth in sales of PCs has created a significant installed base--the market for the service vendor. In such a volatile market, it is difficult to be precise about growth rates. Indications are that the European PC market is growing at about 25% per annum, with 1984 shipments at 180,000 units.

- Assuming that the users' views on service contracts for micros remain constant (with 25% taking out contracts), 45,000 should have been signed in 1984, rising to over 70,000 by 1986. It should also be noted that one micro in four is currently being sold to a large company rather than a small business, increasing the possibility that a PC can be bundled in with a general maintenance contract. The table below shows the European market for microcomputer servicing. All data are in pounds sterling.

Year	Forecast PC Shipments	Forecast No. of Service Contracts	Value of Service Contracts	Value of Ad Hoc Service	Total Value of Service
1984	180,000	45,000	18,090	3,685	21,775
1985	235,000	58,750	25,252	8,101	33,353
1986	281,000	70,250	31,647	11,568	43,215
1987	348,000	87,000	39,256	17,234	56,490

EXHIBIT III-14

USER RATING OF VENDOR SERVICE PERFORMANCE

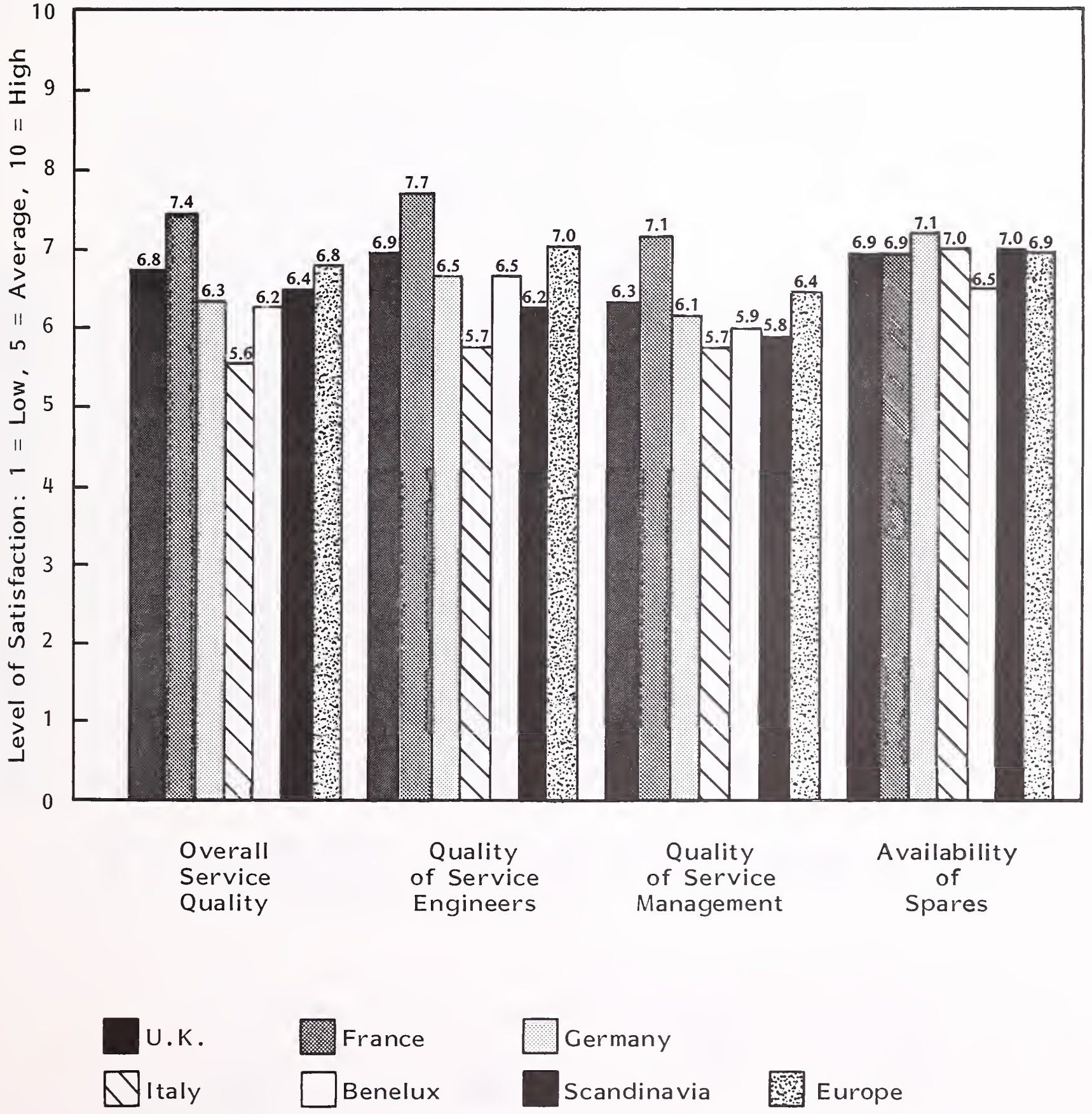
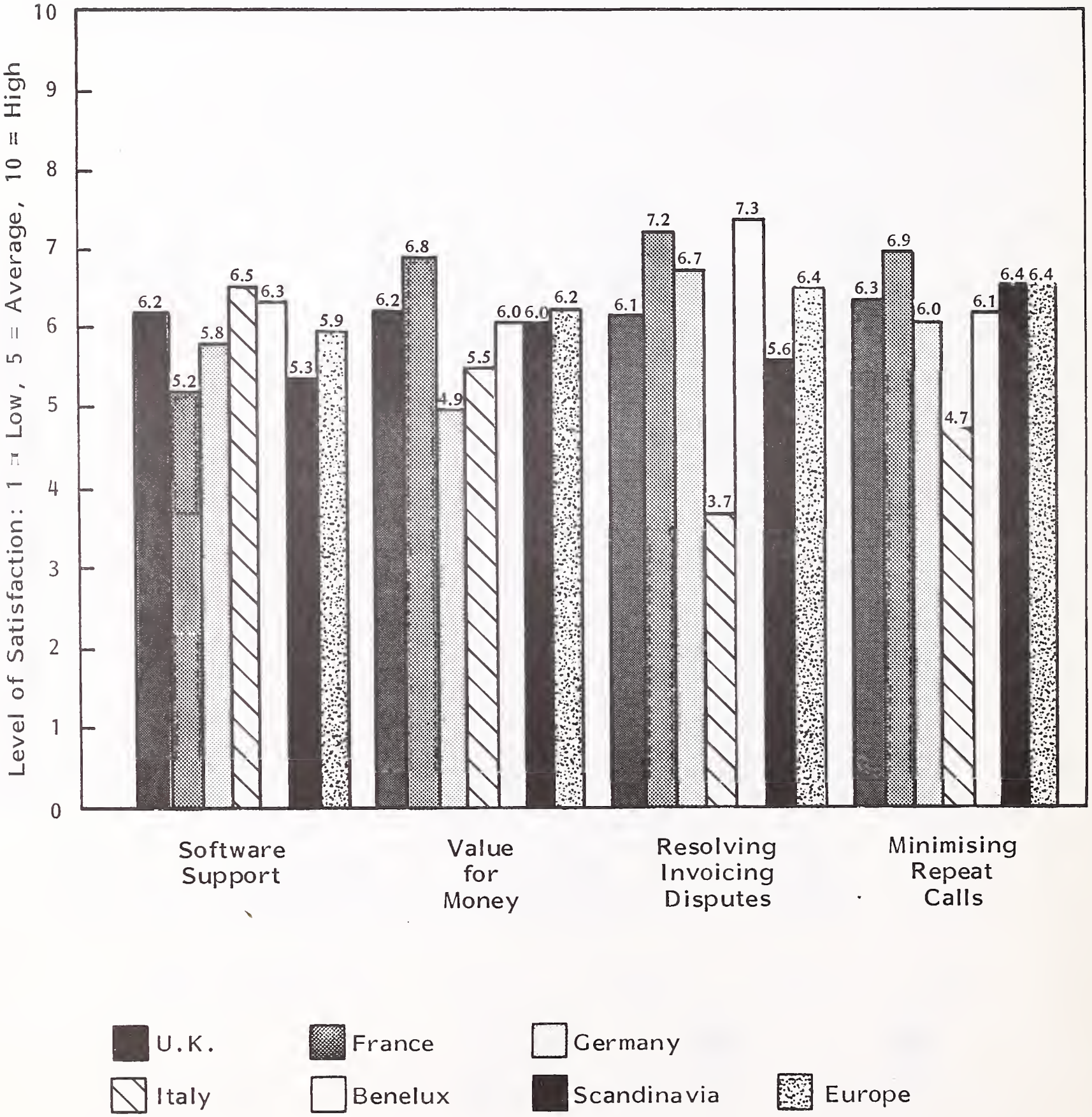


EXHIBIT III-14 (Cont.)

USER RATING OF VENDOR SERVICE PERFORMANCE



- The market forecast in the table above is based on a number of assumptions:

  - In any year only 75% of maintenance contracts are renewed.

  - Prices will increase by only 1.6% per annum for service contracts and by 2% per annum for ad hoc servicing.

  - There will be no significant change in the reliability of hardware.

- Users are unwilling to pay more than 13% of the hardware price for a maintenance contract. With low hardware prices, this level of income may create profitability problems among some maintenance companies.

- The economics of the service operation will probably change as the market moves away from the small business, single free-standing PC towards the large installation network of many micros.

- Imaginative pricing for software support may provide major profit opportunities.

G. APPROACHES TO SERVICING

- The nature of the product (low value and wide dispersion, for example), high incidence of multiple manufacturer sites and relatively low user response requirements all affect the possible approaches to service.

- Although the traditional on-site repair approach may work reasonably well, there are potential problems.

  - Many of the machines are located in executive offices, and an executive user may be reluctant to be disturbed by an engineer.

- Given an average repair time of 1.7 hours (which with travelling time could extend to 2.5 hours), an engineer may complete only three repairs per day. With the relatively low value of service prices, this may not be an adequate number to generate necessary revenues.

- One approach adopted by a number of vendors is to exchange units on site, and then carry out repairs in a workshop.

- Several service vendors are actively encouraging users to take faulty units into service depots, mainly by offering significant discounts of as much as 50% but mainly around 25-30%. Obviously this allows the maintainer to concentrate efforts on repair rather than travel.

- A spin-off from the exchange and "carry-in" service may be an improvement in the engineers' software and personal contact skills. Being less involved in engineering repairs, the customer service engineer would be able to concentrate much more on software--still the weakest area in customer service.

- Concentrating repairs in a workshop will also simplify and reduce the level of stores' inventory necessitated by the very wide range of equipment that may have to be handled.

INPUT®
Airwork House, 35 Piccadilly, London, W1V 9PB, England, 01-439-8985